

NOTE: The following is an excerpt from a preliminary draft document that may change significantly before it is finalized. This excerpt contains recommendations for the second Washington State Beyond Waste initiative. This second initiative focuses on Moderate-Risk Waste (HHW plus CESQG waste) and this excerpt start with recommendation #9.

There are other initiatives and additional context for this plan that are not included here. This is provided as an aide to discuss the current focus of the initiative as well as how various stakeholders might lead or participate in the implementation of this part of the Washington State Beyond Waste Plan. For more information on the Beyond Waste Project go to:

www.ecy.wa.gov/beyondwaste/

Scope

Ecology identified five initiatives or areas of focus to help Washington attain the Beyond Waste vision. The updated State Hazardous Waste Plan and State Solid Waste Plan are the mechanisms for implementing these initiatives. The State Plans will guide both state and local governments as well as the private sector and citizens in decision-making that will have major waste management and waste generation impacts for many years to come.

Chapter 2 of this document provides some detail of the five initiatives that are common to both the State Hazardous Waste Plan and State Solid Waste Plan as well as issues that are specific to the management of hazardous waste and solid waste. These initiatives and the specific program issues focus on the reduction or elimination of hazardous and solid wastes in Washington. In short, these five initiatives will:

1. Eliminate wastes and reduce the use of toxic substances in Washington's industries.
2. Reduce and eliminate small volume hazardous wastes from businesses and households.
3. Establish a recycling system in Washington so organic wastes like food waste, yard waste, and crop residues are no longer landfilled.
4. Design and construct buildings in Washington to reduce toxic components and eliminate the negative impacts of buildings on the environment and people.
5. Develop a system to measure our progress in achieving our goals.

There are numerous recommendations for each of these initiatives. Some of these recommendations are short-term in nature and some are long-term. That is, with some recommendations results may be apparent fairly quickly and with others it may take up to 30 years to achieve the desired goal. Implementation will be ongoing over a period of many years. For some recommendations implementation will begin sooner than for

others, some will require new funding sources, some will require partnerships to be developed between Ecology and business sectors, and some can only be accomplished by entities other than Ecology. However, the common goal of all these recommendations and the two State Plans in general is to develop strategies to reduce or eliminate waste generation and to properly manage the hazardous and solid wastes that cannot be avoided.

Initiative #2

Reducing Small Volume Hazardous Materials and Wastes

Complete details on this initiative are available on Ecology's web site at <http://www.ecy.wa.gov/beyondwaste/> or see p.61.

Introduction

The goal of this initiative is to accelerate progress toward eliminating the risks associated with products containing hazardous substances. Specifically, this initiative encompasses products and substances commonly used in households and in relatively small quantities by businesses. The term "moderate-risk waste" (MRW) is used in Washington to classify hazardous wastes from households and small quantities from businesses. The term "moderate risk" is misleading because these wastes are not necessarily moderate in their risks to human health and the environment. Also, the distinction between a hazardous waste and a hazardous product is artificial since both carry potential risks. The term moderate-risk waste, or MRW, is a familiar description used throughout this initiative and it includes products and substances before they actually become "wastes."

This initiative was selected as a key factor in moving Beyond Waste for the following reasons:

1. Small volume hazardous materials and wastes are everywhere and people come into contact with them daily. Chronic exposure to chemicals in our homes and businesses is a significant health risk as well as very costly to businesses and society due to increased costs associated with health care, insurance and liability. In addition, acute exposures to chemicals in the home and businesses have increased as the sales and use of these products have increased.
2. The current management system for wastes from households and businesses generating small quantities relies on taxes and fees. This is unsustainable in the long run. Most of these monies pay for special collection and disposal programs to keep MRW out of municipal solid waste landfills, incinerators, and away from illegal disposal, yet only a small percentage of all MRW generated is actually captured.
3. Many opportunities exist today to work toward reducing and eliminating the risks associated with these products and materials. Momentum is building for less

harmful alternatives to be offered and used, and for more of these products and materials to be reused and recycled. Several regional and national initiatives are already underway and can be advanced through the Beyond Waste Project. Also, this key initiative augments the Industrial, Green Building and Organics Initiatives of this plan.

Today's Reality

The existing regulatory system for local hazardous materials and wastes focuses on waste management. These moderate-risk wastes are exempt from the state *Dangerous Waste Regulations*. Little attention is given to the hazardous materials themselves, unless they are used in very large quantities.

The majority of the moderate-risk waste stream is household hazardous waste. Household hazardous waste (HHW) is any waste created by the discard of a hazardous household substance. The proportion of HHW in the municipal solid waste stream is small, estimated to be about 1% of the municipal solid waste; however, HHW is easily the most toxic component of the municipal waste stream. There are six types of hazardous household substances based on the category of use.

Hazardous Household Substance Types

Type	Example
Repair and Remodeling	Adhesives, oil-based paint, thinner, epoxy, stripper
Cleaning Agents	Oven, deck and toilet cleaners; degreasers
Pesticides	Wood preservatives, mole killer, herbicides, pesticides
Auto, Boat and Equip. Maintenance	Batteries, paint, gasoline, oil, antifreeze, solvents
Hobby and Recreation	Photo & pool chemicals, glaze, paint, white gas
Miscellaneous	Ammunitions, fireworks, asbestos

The remainder of the moderate-risk waste stream comes from commercial generators of small quantities of hazardous waste who are commonly referred to as conditionally exempt small quantity generators (CESQGs). These businesses generate less than 220 pounds per month or per batch for most hazardous wastes. CESQG wastes include the same substances as HHW, but may also include some additional commercial wastes that would be less likely to be found in HHW. Some examples of commercial wastes would be copier and photo processing wastes in commercial quantities, high-strength cleaning and production chemicals, and strong oxidizers, acids, and bases in commercial quantities.

In 2002, 22.7 million pounds of HHW was collected from Washington households with the average participating household bringing in 103 pounds of HHW. Combined with the 1.4 million pounds of CESQG wastes collected, the total volume of MRW collected

in 2002 was 24.1 million pounds. A generally accepted estimate of the total volume of MRW disposed is approximately 1%, by weight, of the total municipal solid waste stream. In 2002, approximately 144 million pounds of all municipal solid waste was MRW. Therefore, Washington's MRW programs collected about 17% (24.1/144) of the estimated total for MRW disposed in 2002. The current collection system does not appear to have the capacity to manage the remaining 83% of the MRW waste stream with current funding levels and infrastructure.

CESQG wastes are less well quantified than HHW. MRW professionals have estimated that the CESQG waste stream may be as large as or larger than the HHW waste stream. While the availability of hazardous household products and substances is relatively uniform from household to household, significant differences exist between the chemicals used by small businesses as well as the distribution of small business types across the state. Consequently, it is more difficult to precisely assess the magnitude and geographic distribution of CESQGs and their waste statewide.

Although MRW collection is inadequate compared to the volumes generated, it does divert hazardous materials from the municipal waste streams and provide numerous benefits. MRW collection provides an opportunity for waste reduction education, allows for the recovery of materials as resources, reduces the toxicity of solid waste landfills and wastewater systems, helps the public to avoid improper disposal practices, and protects waste processing equipment and handlers from exposure to hazardous materials.

30-Year Goals

The following are the 30-year goals of the Small Volume Hazardous Materials Initiative:

- v Safer Products and Services**

Most threats to human health and the environment have been eliminated by minimizing chemical hazards associated with the life-cycles of products and services. Less toxic products and services are available to meet consumer demand.

- v Efficient Materials Management**

Human health and the environment are well protected. Reuse and recycling are optimized as producers, retailers, government, consumers, the solid waste industry, and other sectors have collaboratively developed an infrastructure for the safe and responsible management of hazardous materials.

- v Greater Economic Vitality**

Economic sectors in Washington thrive in the domestic and global marketplace as hazardous materials are systematically eliminated from products and services. New programs and technologies are developed to manage the remaining hazardous materials more effectively and efficiently. Consumer confidence has increased, risks

and liabilities have decreased and costs for managing wastes are reduced.

Proposed Actions

The following are recommendations to be undertaken over the next five years for the Small Volume Hazardous Materials Initiative to succeed:

✓ **Recommendation #9 — Prioritize Moderate-Risk Waste (MRW) hazards to be eliminated from municipal solid waste**

Develop an approach to identify and eliminate priority substances/hazards from entering the solid waste stream due to the potential widespread environmental threats they pose. The following are proposed as the first set of priority substances/hazards:

- Mercury
- Polybrominated diphenyl ethers (PBDE) – flame retardants
- Electronics
- Selected pesticides
- Architectural paints and coatings

Additional priorities needing more research are:

- Lead
- Pharmaceuticals
- Used oil

As recommendations are carried out and goals are achieved for the priority substances identified, the next sets of substances to be targeted should be identified, relying on knowledge, experience, successes to date and peer-reviewed literature.

✓ **Recommendation #10 — Support the Mercury Chemical Action Plan**

Help reduce/eliminate mercury by supporting and building on the Washington State Mercury Chemical Action Plan (WSMCAP). The WSMCAP, part of a statewide long-term strategy for eliminating persistent bioaccumulative toxins, or PBTs, includes actions to decrease mercury from all sources. Some significant sources of mercury in the moderate-risk waste arena are crucial to the success of the overall action plan. Specific actions that support the goals of the WSMCAP include:

- Provide mercury reduction education and technical assistance to businesses that use mercury-containing materials and products.
- Develop and carry out ongoing education programs for households and schools on:
 1. Mercury-containing products and alternatives
 2. Safe cleanup of mercury spills
 3. Fish consumption advisories

4. Mercury impacts on health and the environment

- Facilitate and support efforts to implement legislation requiring manufacturers of mercury-containing and mercury-added products to establish and fund a collection and recycling infrastructure for those products.
- Facilitate and support efforts to implement legislation requiring manufacturers to report mercury-containing or mercury-added consumer products sold in Washington.

✓ **Recommendation #11 — Reduce threats from PBDEs**

Participate in and support development of a statewide plan to reduce threats posed by Polybrominated diphenyl ethers (PBDEs). Assist with implementation of this plan as it relates to the moderate-risk waste stream. Specific actions include:

- Assist with development of the PBDE chemical action plan as it relates to household products and wastes.
- Assist with implementation of the PBDE chemical action plan.

✓ **Recommendation #12 — Develop an electronics product stewardship infrastructure**

Reduce electronics waste and the use of toxins by helping to develop a comprehensive electronics product stewardship infrastructure with industry by:

- Continuing to participate in and support existing efforts to establish this infrastructure (through the Western Electronic Product Stewardship Initiative and the National Electronics Product Stewardship Initiative). This electronics infrastructure needs to include:
 1. Accessible and effective take-back systems for electronic products.
 2. Electronics recycling that does not harm human health or the environment.
 3. Product re-design to eliminate hazardous components, ease disassembly and recycling, and lengthen life-span.
- Research and make recommendations on implementing and financing an electronic product collection, recycling and reuse program.
- Increase awareness of the hazards of electronic products and wastes, and build demand for less-toxic and less waste-producing alternatives.

✓ **Recommendation #13 — Phase out priority pesticides**

Identify and develop a plan to reduce or phase out priority pesticides. Actions to be taken should include:

- Convene a workgroup of experts to identify the priority pesticides, both non-agricultural and agricultural, that should be targeted first for reduction and phase-out efforts.

- Develop a specific plan and timeline for reducing/phasing out the identified non-agricultural priority pesticides.
 - Educate potential users of priority non-agricultural pesticides about alternatives and health and environmental risks.
 - Partner with pesticide manufacturers to develop a take-back system for pesticides that are banned.
 - Work with the Washington State Dept of Agriculture to identify and understand barriers that prevent growers from reducing use of priority agricultural pesticides and/or switching to alternative products and methods.
 - Develop a long-term strategy to eliminate those barriers so that use of priority agricultural pesticides will decrease.
- ✓ **Recommendation #14 — Develop a paint product stewardship infrastructure**
Reduce architectural paint wastes and the use of toxins in such paints through a paint product stewardship infrastructure with industry by:
- Continuing to participate in efforts to partner with industry on a product stewardship infrastructure (this should include, at a minimum, a take-back system).
 - Educating paint users on waste and toxin reduction practices.
 - Evaluating the effectiveness of these existing efforts to divert and recycle leftover paints in the northwest. If needed, develop an alternate proposal, which would likely involve regulatory requirements.
- ✓ **Recommendation #15 — State government will lead by example**
State government will lead by example in reducing use and purchase of hazardous products and services by:
- Developing and implementing environmentally preferred purchasing (EPP) policies and practices for the following priority areas and products:
 - Automotive products and vehicles (used oil and mercury switches)
 - Grounds maintenance/Integrated Pest Management (pesticides)
 - Electronic products
 - Building materials (including paints, carpet, fixtures, furnishings)
 - Cleaning products
 - Flame retardants
 - Promoting increased EPP by providing education and technical assistance (to state government purchasing officials and local governments as well as other entities that purchase from Washington State contracts)

- Developing and promoting best management practices for alternatives to products that contain hazardous substances, product reuse and recycling practices.
- Regularly strengthening and expanding the products and services included in the EPP programs to further reduce government use of hazardous substances.

✓ **Recommendation #16 — Transition to a risk-based regulatory framework**

Develop a long-term approach and plan to modify environmental laws and regulations that govern MRW so they are based on hazards, toxicity and risk, and to protect human health and the environment. Over time, transition from a waste-centered regulatory framework to a toxicity and risk based framework that focuses on hazardous substance use and handling in all industrial processes and services. This change is likely to take many years to complete and it will require the following specific actions:

- Assess the existing regulatory structure to identify strengths and successes.
- Building on the strengths of the existing system, develop a specific proposal for revising the state laws and regulations that directly govern solid wastes, including dangerous and extremely hazardous wastes.
- Assess the need for and viability of changing other regulations and laws that affect hazardous substances including those involving land use, such as fire codes, building codes, and zoning codes at the local government level.
- Develop a specific proposal for revising other laws, regulations, standards and requirements that affect hazardous substances.
- Assess and revise requirements/guidelines that govern local jurisdiction hazardous waste plans to ensure that they incorporate and adequately plan for the risk-based regulatory system.

✓ **Recommendation #17 — Ensure regulatory compliance by hazardous waste handlers**

Ensure that facilities handling hazardous residuals operate in compliance with environmental laws and regulations while encouraging as much reuse and recycling of these materials as possible. This recommendation includes the following actions:

- Evaluate the effectiveness of the existing compliance strategy for facilities that handle moderate-risk wastes (which consists primarily of state-local agency partnerships, solid waste permitting delegation to local jurisdictional health authorities, technical assistance, hazardous waste plans and grant/loan funding for local jurisdictions).
- Based on this evaluation, develop and implement a plan for strengthening the compliance strategy. This should include consideration of the following:
 1. Provide systems-wide technical assistance to facilities.
 2. Address the need for adequate financial assurance requirements for facilities and

companies that handle hazardous substances.

3. Increase Environmental Management Systems principles for facilities that recycle or use MRW as feedstock for industrial processes (assess feasibility of legislative mandates and/or incentives).
4. Ensure that compliance activities (permitting, enforcement and assistance) are tied to and consistent with local hazardous waste plans.
5. Modify the state *Dangerous Waste Regulations* to encourage additional legitimate recycling, especially “upcycling” (recycling which results in better, more valuable use of resources – for example, re-refining used oil instead of burning it for energy recovery).
6. Ensure that adequate local and/or state authority is in place to encourage recycling and reuse while maintaining protection of human health and the environment.
7. Provide for regular evaluation and update of the compliance strategy as needs change in the future, particularly when closed-loop recycling increases even more.

✓ **Recommendation #18 — Fully implement local hazardous waste plans**

Assure that all local jurisdictions have and continue to fully implement the five required local hazardous waste plan elements through the following actions:

- Prepare a status report detailing the current state of hazardous waste plan implementation statewide, including an accounting of what has been implemented and accomplished.
- Develop a schedule and strategy for updating any out-of-date plans, and encourage integrated planning with local solid waste plans whenever possible.
- Project future infrastructure needs and use of the existing MRW collection infrastructure to support product stewardship and closed-loop recycling efforts.
- Revise the local hazardous waste planning guidelines to more completely reflect the Beyond Waste goals and vision for the future.
- Provide assistance to local jurisdictions for plan updates and implementation.
- Provide for regular review of the local hazardous waste programs.

✓ **Recommendation #19 — Document progress on 30-year goals**

Document and communicate progress on achieving the 30-year goals for the Small Volume Hazardous Materials and Wastes Initiative. The performance measures recommended at this time are:

- Fraction of Gross State Product spent on waste disposal (plus a variant for government component of economy).
- Miles transported per pound of hazardous materials per capita.

The following additional potential performance indicators will be researched and one or more will be developed and used as an overall measure of progress on the Beyond Waste agenda. These potential indicators are also specifically applicable to help track success toward the goals of this initiative:

- Chemical body burden.
- Quantity and composition of MRW generated.
- Chemical environmental burden.
- Change in the number of green and mean products (Market Basket).

Ecology will also research the following additional potential performance indicators to be included as long-term measures, if feasible:

- Pesticide sales data, tracked over time.
- Reported attitude and actual behavior change.

Closing

Although large quantities of moderate-risk wastes are being segregated, collected, transported and specially disposed, this represents a small portion of the total that is actually being generated. At this point, it is virtually inconceivable that government funding could increase and be sustained at the level needed to collect most of these wastes, even if people were willing to segregate them. While the benefits of the present moderate-risk waste system can be debated, it is clear to most that the system is financially unsustainable for the long-term and that an alternative approach is needed.

The obvious direction to pursue now is to work toward eliminating the hazards of these products, regardless of whether they are being produced, used, recycled or disposed. The products known as moderate-risk wastes directly affect every person in Washington. They pose a complex dilemma—how to maintain the benefits that we gain from their use, while eliminating the risks that come with those benefits. Because of this dichotomy and the vast numbers and volumes of these products, it is necessary to work on a few of them at a time, in a comprehensive and most importantly, a coordinated fashion.